



June 2010  
Results from  
Testing in  
2009

# City of Bellevue Drinking Water Quality Report

## The Best Drink Around

Safe and reliable drinking water is something you've come to expect, and the City of Bellevue continues to deliver water that's among the nation's finest. Testing throughout 2009 showed that your water is high in quality—it met or surpassed all state and federal drinking water standards. In accordance with the Safe Drinking Water Act and State Department of Health requirements, we're sending this annual report to keep you informed about your drinking water. Inside you'll learn where your water comes from, testing results from 2009, how much you're conserving, and other facts. If you have questions about this report or your water, please call Bellevue's Water Quality Division at 425-452-6192.



PWS ID WA5305575



## Where Does Your Water Come From?

Bellevue's high-quality drinking water comes from the Cedar River and Tolt River watersheds in the Cascade Mountains. Bellevue is a member of Cascade Water Alliance, an organization that provides water to Bellevue and seven other cities and water districts in the Puget Sound region. Cascade and its members are working together to ensure a clean, safe, and reliable water supply for people, the environment, and a growing economy.



Cascade has been working to make sure members will have enough water for the future by developing new water supplies and connecting regional systems. In 2009 Cascade purchased Lake Tapps from Puget Sound Energy and became the new owner and manager of this valuable resource. In the future, Cascade will develop a new municipal water supply while managing the lake for recreation and enhancing fish habitat in the White River.

## Source Water Assessment

The Washington State Department of Health (WSDOH) evaluates the safety of water supplies by assessing sources of contamination prior to treatment. The Cedar River and Tolt River watersheds have a susceptibility rating of high, which is normal for surface water sources such as rivers and lakes. For more information on Source Water Assessments, visit WSDOH's website: [www.doh.wa.gov/ehp/dw/default.htm](http://www.doh.wa.gov/ehp/dw/default.htm)

## Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.



## From the Environmental Protection Agency (EPA)

To ensure that tap water is safe to drink, the EPA and the Washington State Dept. of Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

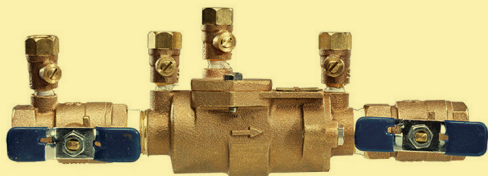
We are fortunate to have high-quality water whenever we turn on the tap. According to UNICEF, more than 884 million people worldwide don't have access to safe drinking water.

## Keeping water safe at your home

To prevent contaminated water from flowing back into your drinking water (a serious health hazard called backflow):

- Do not submerge a garden hose into water in a pool, sink, or bucket.
- Do not use hose-end applicators to apply garden chemicals to your yard.
- Install an approved backflow prevention assembly if you have a lawn irrigation system, fire sprinkler system, or photo development equipment.

*A double check valve assembly back flow preventer device is commonly used to protect the public water supply from irrigation and fire sprinkler backflow contamination.*



Bellevue's water is a bargain – about 1 cent a gallon compared to bottled water, which can be \$10 or more a gallon. For water to go, save money and resources by filling a reusable bottle with tap water.

## Treating water for safety

Water in the Tolt River and Cedar River watersheds starts out very clean and requires little additional treatment. Before treatment, it may contain microbial contaminants, such as viruses, bacteria, and protozoa from wildlife; inorganic contaminants, such as salts and metals, which are naturally occurring; and organic material, such as algae, which is also naturally occurring but can result in the formation of volatile organic contaminants when treated with chlorine. These contaminants have been identified as being a possible carcinogenic. Bellevue Utilities has been monitoring for their presence on a regular basis for several years. Results have shown that the levels within the City are well below the State's maximum contamination level.

Fluoride is added to the water to prevent tooth decay, in accordance with a Seattle public vote in 1968. Chlorine is added to prevent diseases, such as cholera, giardiasis, and salmonellosis. Treatment also destroys *Cryptosporidium parvum*, a disease-causing organism found in the natural environment. In 2009 no *Cryptosporidium* was found during testing. *Cryptosporidium* was detected in 0 out of 4 samples of Cedar water and 0 out of 4 samples of Tolt water. After treatment, your water is safe to drink. It contains very few contaminants, and those present are below the allowable limits.

## Preventing dangerous backflow

If you have an irrigation system for your yard, fire sprinkler system, or photo development equipment, state law requires that you get a backflow prevention assembly to prevent contaminated water from flowing back into your drinking water—a serious health hazard called backflow. Many businesses are also required to have backflow prevention.

Even the best backflow assembly can fail because of freezing, debris, improper installation, unapproved plumbing connections, etc. That's why state law requires that backflow assemblies be tested annually by a certified backflow assembly tester—to ensure that the assemblies will function if there is a backflow event.

Bellevue Utilities maintains a database of assemblies installed throughout the City, monitors their testing, and sends customers a reminder notice, an assembly report, and an updated list of qualified testers when testing is due. Your efforts in performing required testing and reporting new cross connections when found or created goes a long way in helping protect your drinking water quality. We appreciate your cooperation.

Bellevue strives to provide the highest quality water to customers, and protecting against potentially harmful backflows is a very important part of this effort. If you have any questions about backflows or any other water quality issue, please contact the Water Quality Division at 425-452-6192.

## Testing Results Show Your Water Gets High Marks

Your water is monitored and tested every day, and results confirm your water is safe. After testing for close to 200 compounds, only a few were found, and all were below the maximum level allowed by the EPA (see the chart below).

If you would like to see a list of all compounds your water was tested for in 2009, but not detected, please call Bellevue's Water Quality Division at 425-452-6192 or visit the City's website at [www.bellevuewa.gov/water\\_quality.htm](http://www.bellevuewa.gov/water_quality.htm).

## Water Quality Results in 2009

		EPA's allowable limits		Levels in Cedar River		Levels in Tolt River			
Detected Compounds	Units	MCLG	MCL	Average	Range	Average	Range	Typical Sources	Compliant
Raw Water (before treatment)									
Total Organic Carbon	ppm	NA	TT	0.6	0.3 to 0.9	1.3	1.2 to 1.6	Naturally present in the environment	Yes
<i>Cryptosporidium</i>	#/100L	NA	NA	ND	ND	ND	ND	Naturally present in the environment	Yes
Finished Water (After treatment)									
Turbidity (cloudiness)	NTU	NA	TT	0.4	0.2 to 2.6	0.07	0.05 to 0.19	Soil runoff	Yes
Fluoride	ppm	4	4	0.98	0.9 to 1.0	1.0	0.8 to 1.1	Water additive to promote strong teeth	Yes
Barium	ppb	2000	2000	1.2	(one sample)	1.0	(one sample)	Erosion of natural deposits	Yes
Nitrate	ppm	10	10	0.07	(one sample)	0.15	(one sample)	Erosion of natural deposits	Yes
Total Trihalomethanes	ppb	NA	80	Average= 27.4 Range= 15.5-41.7				By-products of drinking water chlorination	Yes
Haloacetic Acids (5)	ppb	NA	60	Average= 25.5 Range= 14.0-40.2				By-products of drinking water chlorination	Yes
Total Coliform	% positive Samples	0	5%	Highest Month = September Annual Average = 0.1%				Naturally present in the environment	Yes
Chlorine	ppm	MRDLG =4	MRDL =4	Average = 0.99 mg/L Range = 0.06 – 1.66 mg/L				Water additive used to control microbes	Yes

## Key to abbreviations in chart

**MCLG:** Maximum Contaminant Level Goal

– The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MCL:** Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MRDL:** Maximum Residual Disinfectant Level – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG:** Maximum Residual Disinfectant Level Goal – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NTU:** Nephelometric Turbidity Unit – Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2009 was 5 NTU and 0.3 NTU for the Tolt for at least 95% of the samples in a month. 100% of the samples from the Tolt in 2009 were below 0.3 NTU.

**NA:** Not Applicable

**ND:** Not Detected

**ppm:** 1 part per million = 1 mg/L = 1 milligram per liter

**ppb:** 1 part per billion = 1 ug/L = 1 microgram per liter

**1 ppm = 1000 ppb**

**TT:** Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

## Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Bellevue is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## Lead and copper monitoring results in Bellevue

Parameter and Units	MCLG	Action Level+	2008 Results*	Homes Exceeding Action Level	Source
Lead, ppb	0	15	14	5 of 52	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.17	0 of 52	Corrosion of household plumbing systems

\* 90th Percentile: i.e. 90 percent of the samples were less than the values shown.

+ The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Because of good test results in recent years, Bellevue was not required by the State Department of Health to perform lead and copper sampling in 2009. If you have concerns about lead in your water, please call Bellevue's Water Quality Division at 425-452-6192.

Water is the best energy drink in the world. It hydrates better than any other liquid, both before and during exercise. It has no calories, fat, or sugar and helps maintain healthy body weight by regulating appetite.



## Improving your water system

Cities across the nation are experiencing record water main breaks, sink holes, and major flooding because of aging infrastructure. Bellevue is ahead of many cities in upgrading its water system due to ongoing maintenance, capital planning, and financial policies. We also compare favorably with the rest of the country when it comes to main breaks--averaging about 4 failures per 100 miles of water main compared to 25 nationwide. To ensure continued reliable water service, the City regularly maintains and repairs the water distribution system and replaces aging water main at the optimum time.

An important project in 2009 was the replacement of aging valves, meters, and controls at the Bel-Red Inlet Station and nearby water main pipe. The Bel-Red Inlet Station provides most of the water from the regional supply to Bellevue's Central Business District. The Bel-Red Inlet will now be able to deliver up to 9,500 gallons per minute even during peak demand summer months. Providing water at peak times is important if the nearby Cherry Crest Inlet is out of service for repairs and is also critical when fighting fires. This project has increased water capacity and system efficiency and improved water quality.

## Bellevue provides quick response to water main breaks

Bellevue Utilities regularly inspects and assesses the City's 616 miles of water main pipe to determine the best time to repair, upgrade, or replace it. But, even with careful assessment and planning, water main breaks occur.

Crews are ready to respond to a water main break 24 hours a day. When a break occurs, they work quickly to stop the flow by shutting off valves, which may also stop water service to customers. If water service is going to be interrupted, we try to notify customers, but if the main break is causing an unsafe condition or property damage, an emergency shutdown without notification may be necessary.

Shutting off a water main and completely stopping the flow of water can take an hour or longer. Crews also close the valve on each service meter to isolate customers from the water main being repaired. They may then need to dig around the pipe to determine the extent of the break and must be careful not to damage other underground utilities, such as gas, electric, cable, and telephone.

Often the break damages the street, and once the pipe repair is made, crews put down a patch on the street and make permanent pavement repairs later when the ground has settled. This temporary fix sometimes causes a bumpy section of the street.

Although repairing a main can take hours, crews stay on the job until the main and roadway are fixed and all customers are back in service. Water mains are sanitized, flushed, and purged of air before customers' meters are turned back on. Our goal is to safely repair the main and restore service to customers as soon as possible. We appreciate your patience when water main breaks occur.

To report water main breaks, call Utilities  
24-hour emergency  
number: 425-452-7840



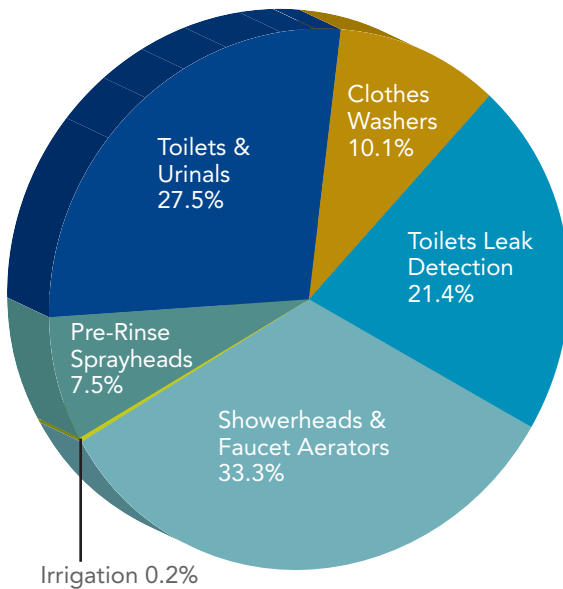
*Bellevue replaced 8,507 linear feet of aging asbestos cement water main pipe with new ductile iron pipe in 2009. Plastic wrap around the pipe, shown above, protects the pipe from corrosion.*

Bellevue compares favorably with the rest of the country when it comes to water main breaks, averaging about 4 failures per 100 miles of water main compared to 25 nationwide.



## 2009 Water Savings

200,000 gallons per day saved



In 2009, Bellevue residents, local businesses, property owners and schools saved over 200,000 gallons of water per day. Thank you for doing your part to conserve!

## Water Savings Goal – How are we doing?

Bellevue established a six-year water conservation goal in 2007 to save 355,000 gallons per day (gpd) by the end of 2013--an average of 59,000 gpd of new savings each year. We are pleased to report that Bellevue is on track for meeting this goal!

Bellevue, in partnership with Cascade Water Alliance, offers customers conservation programs that are proven to be effective for reducing indoor and outdoor water use. Thanks to community support and participation, these programs have been successful, and the savings add up. Since establishing the target in 2007, Bellevue has saved over 349,000 gpd, representing an impressive 98 percent of the six-year goal. In 2009 residents, local businesses, property owners, and schools saved over 200,000 gpd. To see where program savings came from last year, check the chart on the left. Congratulations to Bellevue customers who are doing their part to conserve!

Bellevue supports its conservation programs with local outreach and education that focus on educating youth, reducing seasonal peak water use, and fostering participation in regional programs. Youth education programs reached about 4,500 students through coordination with the Bellevue School District. The Waterwise Demonstration Garden at the Bellevue Botanical Garden educates the community about landscape water conservation and natural yard care. Seasonal yard care classes, displays, and how-to resources reach thousands of local residents and Garden visitors each year. In 2009 volunteers donated 570 hours, working in the garden while learning more about waterwise plants and practices. The latest water conservation news and tips are also featured in Bellevue's It's Your City newspaper, on the City's website, and on the City's BTV cable channel 21.

Bellevue purchases its water from Cascade Water Alliance. In 2009 Bellevue purchased 6.12 million gallons, serving about 135,000 residents and a daytime influx that increases the population to over 200,000. The City works to minimize water losses caused by leaks in infrastructure. Unaccounted-for water, which includes leaks and unmetered water use, was 5.7 percent of total consumption in 2009. This is below the Washington state standard of 10 percent and compares favorably with the national average of between 10 percent and 15 percent.

Conservation can help you control water bills and can lower wastewater and energy costs, too. To learn more about City conservation programs and what you can do to save water, call Bellevue Utilities at 425-452-4127.



City of Bellevue Utilities  
PO Box 90012  
Bellevue, WA 98009

## City of Bellevue

Your drinking water 425-452-6192  
Utilities 24-hour Emergency Services 425-452-7840  
Billing issues 425-452-6973  
Discounts for low-income seniors and low-income citizens  
with disabilities 425-452-5285  
Email: [Utilities@bellevuewa.gov](mailto:Utilities@bellevuewa.gov)  
[www.bellevuewa.gov/utilities.htm](http://www.bellevuewa.gov/utilities.htm)

## Safe Drinking Water Act Hotline

Direct your drinking water questions to the EPA's hotline:  
1-800-426-4791.

## Get Involved

The Environmental Services Commission advises Bellevue City Council on Utilities issues. To get involved in water issues, call Bellevue Utilities at 425-452-4497 for meeting dates and other information.

This report contains important information about your drinking water. To read it in Russian, Spanish, Vietnamese, or Chinese, please visit the City of Bellevue's web site at [www.bellevuewa.gov/water\\_quality.htm](http://www.bellevuewa.gov/water_quality.htm).

Este informe contiene información importante acerca del agua potable. Para leerla en español, visite el sitio web de la ciudad de Bellevue en [www.bellevuewa.gov/water\\_quality.htm](http://www.bellevuewa.gov/water_quality.htm).

Bànn bàuu càuu nàyy chòua thòang tin quan tróing veà nồôuc uoáng cuúa quyù vò. Neáu muoán ñoic baèng tiéang Việät, xin ñeán maïng löôù cuúa thaønñ phoá Bellevue tại [www.bellevuewa.gov/water\\_quality.htm](http://www.bellevuewa.gov/water_quality.htm).

本報告包含有關您的飲用水的重要資訊。  
如欲閱讀繁體中文版，請參觀貝爾維尤市 (City of Bellevue)  
的網站 [www.bellevuewa.gov/water\\_quality.htm](http://www.bellevuewa.gov/water_quality.htm)。

В данном отчете содержится важная информация о питьевой воде в нашем городе. Чтобы ознакомиться с ней на русском языке, пожалуйста, зайдите на веб-сайт города Бельвью [www.bellevuewa.gov/water\\_quality.htm](http://www.bellevuewa.gov/water_quality.htm)

## Save Water This Summer With a Free Rain Sensor



Bellevue and Cascade are offering a new program to help local homeowners and businesses save water during the upcoming irrigation season. The Free Rain Sensor Program provides a free rain sensor and up to \$50 towards installation to Bellevue customers with an existing in-ground irrigation system. Rain sensor shut off devices automatically turn off irrigation systems in the event of rain, preventing unnecessary waste and oversaturation of lawn and garden beds. Customers can choose from several licensed and bonded irrigation contractors for the installation. The process is simple: just visit [www.cascadewater.org](http://www.cascadewater.org) to find a list of participating contractors. Have your free rain sensor installed right away and start saving.

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